# ThreatQuotient

## ServiceNow Operation Guide

**Version 1.1.0**

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# Warning and Disclaimer

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# Contents

# Versioning

- Current integration version: `1.1.0`
- Supported on ThreatQ versions >= `4.40.0`
- ServiceNow Service Management: `New York` or more recent

# Introduction

The ServiceNow Operation for ThreatQuotient enables a user to perform actions against the ServiceNow API, such as enrichment.

# Installation

Perform the following steps to install the integration:

> The same steps can be used to upgrade the integration to a new version.

1. Log into https://marketplace.threatq.com/.
2. Locate and download the integration file.
3. Navigate to the integrations management page on your ThreatQ instance.
4. Click on the **Add New Integration** button.
5. Upload the integration file using one of the following methods:
   - Drag and drop the file into the dialog box
   - Select **Click to Browse** to locate the integration file on your local machine

   > ThreatQ will inform you if the operation already exists on the platform and will require user confirmation before proceeding. ThreatQ will also inform you if the new version of the feed contains changes to the user configuration. The new user configurations will overwrite the existing ones for the operation and will require user confirmation before proceeding.
6. You will still need to configure and then enable the operation.

# Configuration

> ThreatQuotient does not issue API keys for third-party vendors. Contact the specific vendor to obtain API keys and other integration-related credentials.

To configure the integration:

1. Navigate to your integrations management page in ThreatQ.
2. Select the **Operation** option from the *Type* dropdown (optional).

   > If you are installing the integration for the first time, it will be located under the **Disabled** tab.

3. Click on the integration to open its details page.
4. Enter the following parameter under the **Configuration** tab:

| PARAMETER | DESCRIPTION |
|---|---|
| **Host** | Your ServiceNow hostname. |
| **Password** | Your ServiceNow password. |
| **TQ Host** | Your ThreatQ hostname. |
| **Username** | Your ServiceNow Username |

5. Click **Save**.
6. Click on the toggle switch, located above the *Additional Information* section, to enable the operation.

# Configuring ServiceNow Plugins

There are three plugins which must be installed in the following order:

1. Threat Intelligence
2. Vulnerability Response
3. Security Incident Response

To install these plugins, log into your ServiceNow instance and complete the following steps:

1. From the filter navigation, search for plugins.
2. Click **Plugins**.
3. Locate each plugin, select it, and navigate to the plugin page.
4. Click the plugin name.
5. Under related links, select **Activate/Update**.

   A progress bar indicates the progress of the activation. The modal updates when the activation is complete.
6. To continue installing plugins, click **View Plugin List** and repeat the steps above.
7. After you install the final plugin, select **Close Reload Form**.

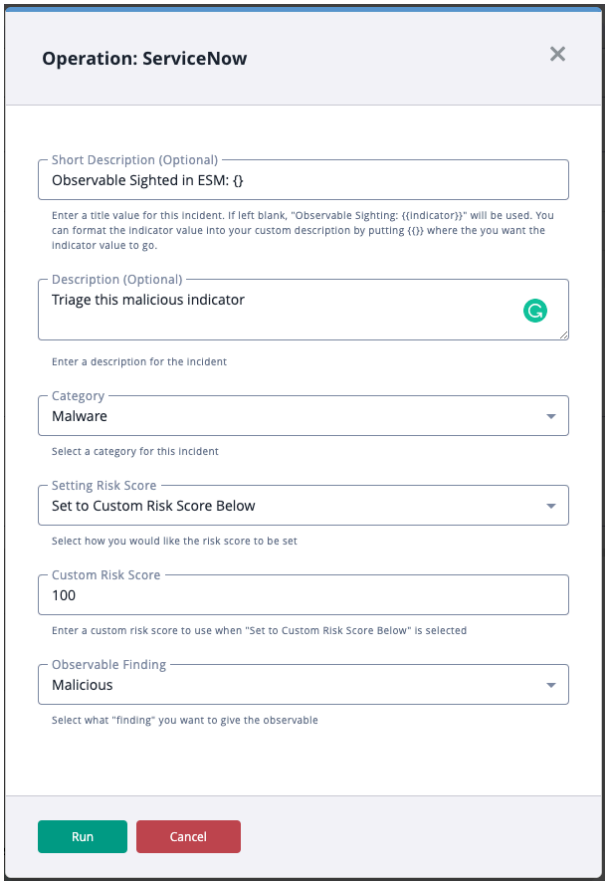
# Actions

This operation uses pysnow Client and Resource to communicate with ServiceNow.

| ACTION | DESCRIPTION | OBJECT TYPE | OBJECT SUBTYPE |
|---|---|---|---|
| Create Security Incident | Create Security Incident in SNOW from a TQ Indicator. It will also add the observable to ServiceNow and relate the incident to it. Lastly, it will upload the corresponding ServiceNow incident, as an Event, to ThreatQ. | Indicators | MD5, SHA-1, SHA-256, SHA-512, IP Address, FQDN, URL, Email Address, Registry Key, CIDR Block, Mutex, CVE, ASN, MAC Address, Email Subject, String |
| Add Observable | Add (or update) an observable in ServiceNow based off a TQ indicator | Indicators | MD5, SHA-1, SHA-256, SHA-512, IP Address, FQDN, URL, Email Address, Registry Key, CIDR Block, Mutex, CVE, ASN, MAC Address, Email Subject, String |
| Add Ticket | Creates (or updates) a ticket in ServiceNow from any TQ event; includes the related indicators as observables | Events | Any |

# Create Security Incident

This action will create a new security incident in ServiceNow. It will also add the observable to ServiceNow and relate the incident to it. Lastly, it will upload the corresponding ServiceNow incident, as an Event, to ThreatQ.




This action has the following configuration options:

| OPTION | DETAILS |
|---|---|
| **Short Description** | Optional - Enter a title value for this incident. if left blank, `Observable Sighting: {indicator}` will be used.<br><br>You can format the indicator value into your custom description by putting `{}` where you want the indicator value to go. |

| OPTION | DETAILS |
| --- | --- |
| **Description** | Optional - Enter a long description for the security incident. |
| **Category** | Select a category (or None) to give to this security incident. |
| **Setting Risk Score** | Select how you want to set the Risk Score of the security incident.<br><br>Options include:<br>• Map ThreatQ Score to Risk Score (default)<br>• Set to Custom Risk Score Below<br>• Do Not Set Risk Score |
| **Custom Risk Score** | Enter a custom risk score to use when `Set to Custom Risk Score Below` is selected. |
| **Observable Finding** | Select the "finding" for the observable.<br><br>Options include:<br>• Malicious (default)<br>• Unknown |

## Sample Response

`PUT https://<SNOW Host>/api/now/table/sn_si_incident` to create the SNOW ticket


```
    {
        "sys_updated_by": "admin",
        "new_pir_respondents": "",
        "upon_reject": "Cancel all future Tasks",
        "special_access_read": "",
        "secure_notes": "",
        "time_worked": "",
        "pir_respondents": "",
        "department": "",
        "problem": "",
        "phish_email": "",
        "sla_suspended": "false",
        "description": "",
        "request_category": "",
        "contract": "",
        "sys_updated_on": "2021-05-04 11:47:47",
        "correlation_id": "",
        "sla_suspended_for": "",
        "affected_user": "",
        "vulnerability": "",
        "spam": "false",
        "source_ip": "",
        "sys_created_by": "admin",
        "closed_by": "",
        "comments_and_work_notes": "2021-05-04 11:47:47 - System Administrator (Automation activity)\nRisk score
changed from Empty to 40 due to change in business impact, priority, severity, risk score override\n\n",
        "user_input": "",
        "automation_activity": "2021-05-04 11:47:47 - System Administrator (Automation activity)\nRisk score changed
from Empty to 40 due to change in business impact, priority, severity, risk score override\n\n",
        "short_description": "Observable Sighting: 81.69.35.30",
        "malware_hash": "",
        "sla_due": "UNKNOWN",
        "active": "true",
        "approval_set": "",
        "activity_due": "UNKNOWN",
        "assignment_group": {
            "link": "https://ven04019.service-now.com/api/now/table/sys_user_group/
dea26263ff0331007a6dffffffffff19",
            "display_value": "Security Incident Assignment"
        },
        "parent_security_incident": "",
        "category": null,
        "work_end": "",
        "alert_sensor": "",
        "initiated_from": "",
        "vendor_reference": "",
        "sys_created_on": "2021-05-04 11:47:47",
        "opened_at": "2021-05-04 11:47:47",
        "delivery_task": "",
        "urgency": "3 - Low",
        "risk_score": "40",
        "dest_ip": "",
        "delivery_plan": "",
        "due_date": "",
```

```
        "sys_domain_path": "/",
        "approval": "Not Yet Requested",
        "is_catalog": "false",
        "business_criticality": "3 - Non-critical",
        "pir": null,
        "cmdb_ci": "",
        "subcategory": null,
        "comments": "",
        "state": "Draft",
        "previous_agent": "",
        "caller": "",
        "expected_start": "",
        "sys_id": "94657d6b1bf7ec50cf41cbb5624bcb37",
        "other_ioc": "",
        "escalation": "Normal",
        "business_duration": "",
        "security_incident_self": {
            "link": "https://ven04019.service-now.com/api/now/table/sn_si_incident/
94657d6b1bf7ec50cf41cbb5624bcb37",
            "display_value": "SIR0010052"
        },
        "additional_assignee_list": "",
        "assigned_vendor": "",
        "close_notes": "",
        "priority": "4 - Low",
        "sys_domain": {
            "link": "https://ven04019.service-now.com/api/now/table/sys_user_group/global",
            "display_value": "global"
        },
        "qualification_group": "",
        "risk_change": "Up",
        "prediction": null,
        "work_start": "",
        "knowledge": "false",
        "sys_mod_count": "0",
        "sys_class_name": "Security Incident",
        "request_type": null,
        "correlation_display": "",
        "opened_for": {
            "link": "https://ven04019.service-now.com/api/now/table/sys_user/6816f79cc0a8016401c5a33be04be441",
            "display_value": "System Administrator"
        },
        "location": "",
        "service_offering": "",
        "opened_by": {
            "link": "https://ven04019.service-now.com/api/now/table/sys_user/6816f79cc0a8016401c5a33be04be441",
            "display_value": "System Administrator"
        },
        "reassignment_count": "0",
        "template_workflow_invoked": "false",
        "malware_url": "",
        "work_notes": "",
        "sys_tags": "",
        "attack_vector": "",
        "contact_type": null,
        "number": "SIR0010052",
        "upon_approval": "Proceed to Next Task",
        "severity": "2 - Medium",
        "asset": "",
        "substate": "",
```

```
        "special_access_write": "",
        "order": "",
        "risk": "Moderate",
        "task_created": "false",
        "impact": "3 - Low",
        "external_url": "",
        "made_sla": "true",
        "assigned_to": "",
        "estimated_end": "",
        "follow_up": "",
        "change_request": "",
        "watch_list": "",
        "calendar_duration": "",
        "sla_suspended_on": "",
        "sla_suspended_reason": null,
        "parent": "",
        "company": "",
        "risk_score_override": "false",
        "referrer_url": "",
        "expected_end": "",
        "template": "",
        "skills": "",
        "billable": "false",
        "approval_history": "",
        "universal_request": "",
        "route_reason": "",
        "close_code": null,
        "business_service": "",
        "incident": "",
        "requested_due_by": "",
        "task_effective_number": "SIR0010052",
        "security_tags": "",
        "work_notes_list": "",
        "group_list": "",
        "confidence_score": "",
        "closed_at": ""
    }
```

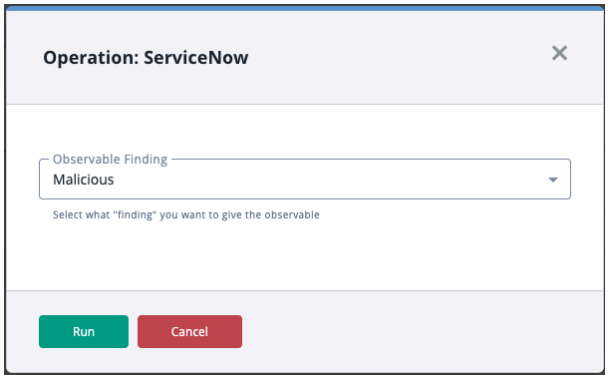

This action also uses `.../table/sn_ti_observable`, `.../sn_ti_m2m_task_observable`, and `.../table/sn_sec_cmn_security_annotation` to create the observable, relate the observable, and add security annotations to the observable.

ThreatQ provides the following default mapping for this Action:

| FEED DATA PATH (TABLE.KEY) | THREATQ ENTITY | THREATQ OBJECT TYPE OR ATTRIBUTE KEY |
|---|---|---|
| sn_si_incident.work_notes | Event | event.comments |
| sn_si_incident.description | Event | event.description |
| sn_ti_observable.value | Indicator | indicator.value |
| sn_ti_observable.type.display_value | Indicator | indicator.type.name |
| sn_sec_cmn_security_annotation.annotation | Indicator | indicator.score |
| sn_sec_cmn_security_annotation.annotation | Indicator | indicator.status |

# Add Observable

This action adds (or updates) an observable in ServiceNow.




This action has the following configuration option:

| OPTION | DETAILS |
|---|---|
| **Observable Finding** | Select the "finding" for the observable.<br><br>Options include:<br>• Malicious (default)<br>• Unknown |

## Sample Reponse

```
PUT https://<SNOW Host>/api/now/table/sn_ti_observable
```

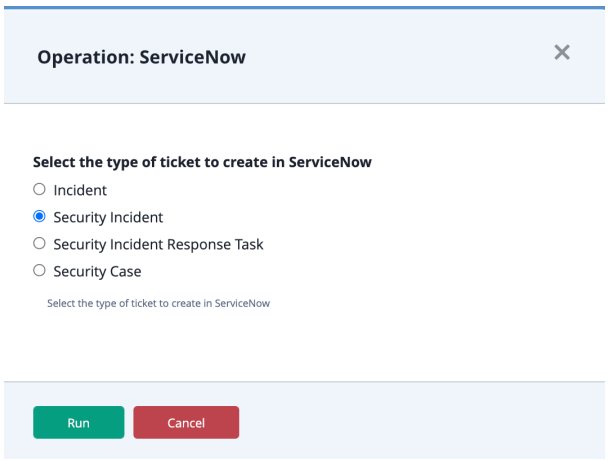

```
    {
        "sys_tags": "",
        "finding": "Malicious",
        "sys_domain": {
            "display_value": "global",
            "link": "https://ven04019.service-now.com/api/now/table/sys_user_group/global"
        },
        "sys_updated_by": "admin",
        "notes": "",
        "sighting_count": "1",
        "sys_id": "c665352f1bf7ec50cf41cbb5624bcb90",
        "type": {
            "display_value": "IP address (V4)",
            "link": "https://ven04019.service-now.com/api/now/table/sn_ti_observable_type/
5d0b43809f81120035c6786f957fcf71"
        },
        "sys_updated_on": "2021-05-04 11:47:54",
        "negation": "false",
        "sys_created_on": "2021-05-04 11:47:54",
        "location": "",
        "sys_created_by": "admin",
        "is_composition": "false",
        "sys_mod_count": "1",
        "operator": null,
        "security_tags": "",
        "malicious_attachment": "",
        "value": "81.69.35.30"
    },
    {
        "data": [
            {
                "type_id": 15,
                "published_at": "2021-05-04 16:27:54",
                "hash": "96ccba6f1872fe70028965da5b389ba0",
                "type": "IP Address",
                "id": 215845,
                "value": "81.69.35.30"
            }
        ],
        "total": 1
    }
```


ThreatQ provides the following default mapping for this Action:

| FEED DATA PATH (TABLE.KEY) | THREATQ ENTITY | THREATQ OBJECT TYPE OR ATTRIBUTE KEY |
|---|---|---|
| sn_ti_observable.value | Indicator | indicator.value |
| sn_ti_observable.type.display_value | Indicator | indicator.type.name |

# Add Ticket

This action adds (or updates) a ticket in ServiceNow (ie. Service Desk Incident, Security Incident, Security Task, or Security Case) based off of any TQ event. It will add the related indicators as related observables in ServiceNow.




This action has the following configuration option:

| OPTION | DETAILS |
|---|---|
| **Select the Type of Ticket to Create in ServiceNow** | Options include:<br>• Incident<br>• Security Incident<br>• Security Incident Response Task<br>• Security Case |

## Sample Response

`PUT https://<SNOW Host>/api/now/table/sn_si_incident`, `.../incident`, `.../sn_si_task`, or `.../sn_ti_case` to create the SNOW ticket


```
{
    "upon_approval": "Proceed to Next Task",
    "sys_created_on": "2021-05-04 10:18:13",
    "knowledge": "false",
    "group_list": "",
    "urgency": "3 - Low",
    "location": "",
    "approval": "Not Yet Requested",
    "sys_domain": {
        "link": "https://ven04019.service-now.com/api/now/table/sys_user_group/global",
        "display_value": "global"
    },
    "last_seen": "2021-05-04 10:18:15",
    "service_offering": "",
    "work_notes": "",
    "upon_reject": "Cancel all future Tasks",
    "calendar_duration": "",
    "watch_list": "",
    "user_input": "",
    "number": "SECC0001005",
    "state": "Open",
    "reassignment_count": "0",
    "comments_and_work_notes": "",
    "impact": "3 - Low",
    "active": "true",
    "company": "",
    "comments": "",
    "universal_request": "",
    "assignment_group": "",
    "delivery_plan": "",
    "due_date": "",
    "activity_due": "UNKNOWN",
    "sys_class_name": "Security Case",
    "case_type": "Campaign",
    "description": "<p>Test case</p>\n",
    "work_start": "",
    "priority": "4 - Low",
    "security_tags": "",
    "contact_type": null,
    "work_notes_list": "",
    "assigned_to": "",
    "route_reason": "",
    "sys_id": "d0e0e5a31bb7ec50cf41cbb5624bcbf8",
    "contract": "",
    "work_end": "",
    "sys_mod_count": "1",
    "follow_up": "",
    "sys_tags": "",
    "rating": "High",
    "additional_assignee_list": "",
    "sys_domain_path": "/",
    "close_notes": "",
```

```
        "short_description": "Test case",
        "sys_created_by": "admin",
        "escalation": "Normal",
        "opened_at": "2021-05-04 10:18:13",
        "expected_start": "",
        "skills": "",
        "order": "",
        "parent": "",
        "closed_at": "",
        "approval_history": "",
        "sys_updated_on": "2021-05-04 10:18:15",
        "business_service": "",
        "approval_set": "",
        "made_sla": "true",
        "correlation_display": "",
        "correlation_id": "",
        "delivery_task": "",
        "sla_due": "UNKNOWN",
        "sys_updated_by": "admin",
        "task_effective_number": "SECC0001005",
        "cmdb_ci": "",
        "business_duration": "",
        "closed_by": "",
        "time_worked": "",
        "opened_by": {
            "link": "https://ven04019.service-now.com/api/now/table/sys_user/6816f79cc0a8016401c5a33be04be441",
            "display_value": "System Administrator"
        }
    }
```


This action also uses `.../table/sn_ti_observable`, `.../sn_ti_m2m_task_observable`, and `.../table/sn_sec_cmn_security_annotation` to create the observable, relate the observable, and add security annotations to the observable.

ThreatQ provides the following default mapping for this Action:

| FEED DATA PATH (TABLE.KEY) | THREATQ ENTITY | THREATQ OBJECT TYPE OR ATTRIBUTE KEY |
|---|---|---|
| {ticket_type}.work_notes | Event | event.comments |
| {ticket_type}.description | Event | event.description |
| sn_ti_observable.value | Indicator | indicator.value |
| sn_ti_observable.type.display_value | Indicator | indicator.type.name |
| sn_sec_cmn_security_annotation.annotation | Indicator | indicator.score |
| sn_sec_cmn_security_annotation.annotation | Indicator | indicator.status |

Depending on the ticket type chosen (Service Desk Incident, Security Incident, Security Task, or Security Case), `ticket_type` will be substituted with `incident`, `sn_si_incident`, `sn_si_task`, or `sn_ti_case`.

# Change Log

- **Version 1.1.0**
  - Added functionality to sync TQ events to ServiceNow along with their related indicators as ServiceNow Observables with Security Annotations and TQ comments as SNOW Work Notes
  - Sync the new SNOW tickets back to TQ as new event with attributes
- **Version 1.0.0**
  - Initial release